



Department of HEALTH, EDUCATION, AND WELFARE • Public Health Service

National Institutes of Health • Bethesda 14, Md.

NATIONAL INSTITUTE OF ARTHRITIS AND METABOLIC DISEASES
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NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS
THE CLINICAL CENTER
DIVISION OF RESEARCH GRANTS

June 13, 1956

Dr. Joshua Lederberg
Department of Genetics
College of Agriculture
The University of Wisconsin
Madison 6, Wisconsin

Dear Dr. Lederberg:

Thank you very much for your letter of May 26, 1956. I appreciated heartily your further information.

The result of the screening tests of galactose metabolizing enzymes is at present as follows:

	Galactokinase	Galactose-1-phosphate uridylyltransferase	Galactowaldenase
W3100	+	+	+
W3091	+	-	+
W3094	+	-	+
W3096	+	-	+
W 3097	+	-	+
W3092	-	+	+
W3142	-	+	+

The distribution of the pyrophosphate uridylyltransferase is still uncertain. I have not had a chance to test its activity by other method. The plus signs in the above table definitely means the presence of the enzyme when cells are adapted to galactose. However, as the deviation of the values are quite large from culture to culture, it cannot be dealt quantitatively yet. I am determining the protein concentration of whole series of extracts used so far, hoping to get some semiquantitative correlation of each enzyme activity.

I think it may not be too surprising to find a weak activity of galactokinase in the cells grown on synthetic glycerol media. Since these cells, I guess, possess galactolipids and/or polygalactose as their cell constituents, the breakdown product of these substance during lysis would be acting as inducer for galactokinase.



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Dr. Kalckar is away to Woods Hole at present, but he will come back to attend at the Baltimore meeting. I think he'll talk to you about the experimental detail at that time.

Yours very sincerely,

Kiyoshi Kurahashi

Kiyoshi Kurahashi